Special Issue

New Frontiers of X-ray Free-Electron Lasers

Message from the Guest Editor

We cordially invite you to participate in this Special Issue on auspicious ideas for future science at X-ray free-electron lasers (XFELs). The issue should cover both novel concepts for tailored X-ray pulse generation and characterization, as well as pioneering experimental schemes and state-of-the-art research taking advantage of these exciting new possibilities. A major focus shall lie in contributions concerning the emerging science with sub-femtosecond X-ray pulses, from the generation and control of attosecond pulses to the study of attosecond dynamics at free-electron lasers, covering the initial excitation or ionization steps in small gas-phase systems, in the condensed phase and in (quantum) materials, ultrafast charge and energy transfer in molecules, photochemical dynamics, ultrafast magnetic exchange and spin switching, and time-resolved imaging, as well as the investigation of X-ray-driven strong-field phenomena. It is envisioned that attosecond pulses will give a new twist to XFELs and stimulate cooperation between diverse research areas, which shall be supported by the broad scope of this Special Issue.

Guest Editor

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Deadline for manuscript submissions

closed (15 October 2023)

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/91111

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

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